

REMARKS

By the foregoing amendments claims 1, 8 and 11 have been amended.

Thus, claims 1, 4-8 and 11 remain in the application.

Applicants rightfully acknowledge the courtesy personal interview granted by Examiner Jason-Dennis Stewart and Primary Examiner Brian Pellegrino to their undersigned attorney on May 4, 2009. During the interview proposed amendments to the independent claims 1 and 8 were presented and arguments in support of patentability were advanced by the undersigned. Several helpful suggestions were made by the Examiners for clarifying distinctions between the present invention and the cited references as discussed more fully below. An agreement was reached with respect to the amended claims as presented above. Namely, the proposed amendments overcome the rejections of record.

As discussed during the interview, the improved shaftless shoulder joint prosthesis and method of fitting the same of independent claims 1 and 8 as amended have particular application in the case of young patients, or patients in whom the bone substance is well preserved, where care must be taken that as little bone substance as possible is lost when fitting a shoulder prosthesis. The invention is contrasted with the known so-called cup shoulder prosthesis, as discussed in the background of the application specification, wherein the head component is fixed to the joint head bone by means of a shaft located medially within a cap-like head. Accessibility to the joint socket with the known cup shoulder prosthesis being significantly impeded due to the fact that the joint head is essentially maintained. As a result, the necessary socket-restorative appliances are omitted with the known prosthesis.

On the other hand, the invention overcomes these drawbacks in that it relates to a shaftless shoulder joint prosthesis wherein the joint head or calotte is not attached to the humerus or shoulder bone by means of a shaft affixed to the head, but instead an attachment body is first fitted to the humerus onto which the humeral head or joint head is mounted solely by means of a tap-on fit, see the Substitute Specification page 2, lines 5-8 and page 5, lines 5-7. In particular, as recited in claims 1 and 8 as amended the attachment body of the shaftless shoulder joint prosthesis is of an at least two-part design including an attachment part for the mounting attachment of the calotte, as well as a mounting segment to effect and at least cement-free anchoring of the attachment body within the bone.

The attachment part is a disk-like positioning body having a medial hole about an axis of the body with a relatively large diameter annular-shaped section about the medial hole and axis. A first side of the annular-shaped section has fixation hooks or projections, 13 in Figure 5, thereon to provide a provisional positionally-correct fixation to a pretreated bone. A second side of the annular-shaped section, 11 in Figure 5, opposite the first side has a relatively smaller diameter at least nearly circular, upstanding projecting collar, 15 in Figure 5, about the medial hole and axis.

The collar projects outwardly from the second side of the annular-shaped section with an inner surface configured to position the mounting segment, hollow screw 7 in Figure 5, when effecting the anchoring and an external surface configured for form-locking engagement with and attachment of the calotte thereon solely by means of a tap on the calotte. This shaftless shoulder joint prosthesis and method of fitting the same as recited in the

claims as amended is not rendered obvious, 35 U.S.C. § 103, by the references referred to in the outstanding rejections of the claims in the Office Action of February 3, 2009.

In the Office Action, claims 1 and 4-7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Tornier, et al., 2003/0149485 in view of Guerderian et al., 2004/0059424 in view of Nicol, et al. 7,097,663 as stated on pages 3 and 4 of the Office Action.

Claim 8 stands rejected under 35 U.S.C. § 103(a) as being anticipated by Guerderian 2004/0059424 in view of Nicol, et al. 7,097,663 further in view of Keynan 2003/0050704 as stated on pages 4 and 5 of the Office Action.

Claim 11 has been rejected in the Office Action under 35 U.S.C. § 103(a) as being unpatentable over Guerderian et al. 2004/0059424 in view of Nicol, et al. 7,097,663 in view of Keynan 2003/0050704 further in view of Tornier 2003/149485 as stated on page 6 of the Office Action.

These rejections have been overcome by the above amendments and agreement as noted in the Interview Summary mailed in the above-identified application on May 6, 2009 based on the aforementioned personal interview on May 4, 2009. As noted during the personal interview, the reference to Tornier 2003/0149485 discloses a prosthetic element for the glenoid part of a shoulder prosthesis, anchored in the glenoid cavity of the shoulder, see paragraphs [0017] and [0043] of Tornier. The Tornier prosthesis is not a humeral head prosthesis which is attached on the humerus as is the present invention. Further, the prosthetic element of the reference is not a shaftless shoulder joint prosthesis wherein the calotte or joint head is attached to the humerus or shoulder bone without having a shaft fixed to the head as in the

present invention. See the Substitute Specification, page 2, the first full paragraph. In Tornier the joint head 1 is connected to a shaft/screw 3, see paragraph [0047] and Figures 1-3 of Tornier. The attachment body construction of the prosthetic element of Tornier is also quite different from that of the present invention and does not include an attachment part with an annular-shaped section having fixation hooks or projections on a first side and a circular, upstanding projecting collar on a second side as claimed by Applicants. Tornier also does not include a hollow screw mounting segment for use through a medial hole of the attachment part as claimed by Applicants.

The reference to Guederian 2004/0059424 is a glenoid component, not a humeral head prosthesis which is attached on the humerus as is the present invention, see [0002] of Guerderian. The glenoid component of the reference is attached to the scapula using pegs 4 which are received in drilled holes in the bone and cemented in place, see paragraph [0014] of Guerderian. The reference does not teach either a calotte or joint head on an attachment part for cement-free anchoring as recited in Applicants claims with fixation hooks or projections on a first side of an annular-shaped section and an upstanding projecting collar on a second side for engaging the calotte in form-locking engagement.

The newly cited reference to Nicol, et al. 7,097,663 is not a shaftless shoulder joint prosthesis but requires placing a shaft/trial stem 100 within the medullary canal 14 of a resected bone 24 as shown in Figures 2 and 3. The positioning body 126, Figures 7-9 of Nicol, et al., is not designed for attachment of the prosthesis at the bone as is Applicants' attachment part. The locking ring 126 is turned by a driver/wrench within the cylindrical cavity

of the head to lock the components in position, column 12, lines 45-49. The locking ring 126 does not have an external surface on which the head is in form-locking engagement for attachment from the head thereon as in Applicants' invention.

The newly cited reference to Keynan relied upon in the rejections of claims 8 and 11 was cited as disclosing implanting a humeral attachment piece to a prepared humerus without the use of bone cement, paragraph 12. However, Keynan fails to provide for the aforementioned deficiencies of Tornier, Guederian and Nicol, et al.

In summary, the shaftless shoulder joint prosthesis and method of fitting the same of the present invention as recited in the claims as amended are not rendered obvious, 35 U.S.C. § 103, in view of the aforementioned references. Accordingly, reconsideration and allowance of the claims as amended is requested.

While Applicants have made a good faith attempt to place the application in condition for allowance with the May 4, 2009 personal interview with the Examiners and the above amendments and remarks, if the Examiners find that outstanding issues remain in the application they are invited to telephone the undersigned with a view toward resolution of such matters in order to place the application in condition for allowance.

A Petition for Extension of Time to permit the timely filing of this Amendment is filed herewith.

Please charge any shortage in the fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 01-2135 (Case No. 635.46315X00) and please credit any excess fees to such deposit account.

Respectfully submitted,

/Ronald J. Shore/

Ronald J. Shore

Registration No. 28,577

ANTONELLI, TERRY, STOUT & KRAUS, LLP

RJS/kmh  
Attachments